

Abstract of the Disclosure

A portable range extender is provided for an electric vehicle having a vehicle controller, and an electric traction motor powered by a battery. The portable range extender has an engine, a dynamoelectric machine coupled to the engine by a shaft and electrically connectable to the vehicle, and a range extender controller for controlling operations of the range extender independently of the vehicle controller. The range extender controller monitors voltage of the battery to automatically activate the range extender when the battery voltage is less than a first threshold value and automatically deactivate the range extender when the battery voltage reaches a second threshold value. The dynamoelectric machine operates as a motor for starting the engine when the battery voltage is less than the first threshold value. In response to prescribed engine conditions, the range extender controller operates the dynamoelectric machine as a generator driven by the engine to generate electric power supplied to the vehicle.